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ABSTRACT

This paper describes the highly gifted student population and provides principles for establishing inclusionary educational environments for them. Highly and profoundly gifted children are described as those who score above the third of fourth standard deviation on IQ tests or who are prodigies in a particular domain. Principles for placing highly gifted students in inclusive classrooms consist of: (1) making age-graded classrooms intellectually accessible to the highly gifted, including access to the full range of preschool through college curriculum; (2) ensuring an educational environment that shows respect for intellectual diversity by not allowing slurs based on ability; (3) ending arbitrary age discrimination that limits highly gifted children's access to the full curriculum; (4) using classroom management and teaching strategies which do not exploit highly gifted children, including the use of cooperative learning in heterogeneous classroom environments that may lead to the exploitation of highly gifted children, and the use of highly gifted children as tutors; and (5) adapting peer settings to meet the individual social and academic needs of highly gifted children. (Contains 50 references.) (CR)

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HIGHLY GIFTED CHILDREN

IN FULL INCLUSION CLASSROOMS

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The telephone rang, and the mother was desperate. Five-year-old Michael was entering kindergarten in the fall. He had recently been tested because he seemed advanced in his development. To her surprise and the examiner's, the child was not only intellectually gifted but tested above 160 IQ. When she approached the principal of the public school her son was slated to attend in September, to her dismay the principal strongly discouraged the boy's enrollment at all, stating that his staff had no idea how to educate such a child and that she should look elsewhere for an education for him.

Unfortunately, Michael's case is not unique. Since the advent of graded schools, children with extremely high cognitive abilities and those with extraordinary special talents have had trouble fitting in. With intellect developing at one-and-one-half, one-and-three-quarters, or even double the usual rate, an age-graded curriculum poses enormous academic problems, which, unaddressed, sometimes spill over into the social arena (Hollingworth, 1942).

It is ironic that in an ideological environment which stresses "full inclusion" in regular classrooms for children with severe disabilities, highly gifted children are still being excluded in many ways. Some, like Michael, are being excluded deliberately (and illegally) from school itself. Other highly gifted children attend regular classrooms, but instead of working at appropriate academic levels and having "an equal opportunity to struggle" (Morreale, 1993), spend much of the school day tutoring others in cooperative learning groups or reviewing curriculum that they mastered years ago on their own (Robinson, 1990; U. S. Department of Education, 1993). Furthermore, a sizable number of child prodigies, children with extremely high IQs, and those with extraordinary special talents in the arts end up homeschooling for part of their academic career, because traditional schools (public and private) do not meet their needs (Feldman, 1986; Hollingworth, 1942; ABC News, 1995).

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What is full inclusion?

"Full inclusion" is a term used by educators to describe a philosophical approach to the education of children with disabilities. This philosophical paradigm maintains that a child with disabilities -- even severe disabilities such as profound mental retardation -- should be placed in a regular classroom for most or all of the school day (Ayres & Meyer, 1992; Cloud, 1992; Conn, 1992; Shanker, 1993; Wolak, York,

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& Corbin, 1992). Drawing from the legacy of the Civil Rights movement, advocates of full inclusion for children with disabilities state that "Inclusion is the ultimate goal for all children with disabilities regardless of their disabilities or current placement" (New York State Education Department, cited in Shanker, 1993). This is not without controversy. Among the most vocal opponents are those in the deaf community, who feel that their culture and language are at stake (Cohen, 1994) and the Learning Disabilities Association of America, which believes that mandatory full inclusion policies violate federal law ("Full inclusion," undated).

As this current movement sweeps the nation, all children in "full inclusion" schools will be affected, both by the presence of a wider diversity of students and teachers in the classroom and by administrative policies flowing from this philosophical stance. Several Minnesota districts, for instance, used as a guiding principle "the idea that all children belong to their respective home school communities and ultimately the classroom of their age peers" (Wolak et. al., p. 28) However, rigid application of this philosophy may have unexamined or even detrimental effects for many types of students. For children from divorced families who shuttle between parents' living quarters, across the city or across the globe, where is "home"? In the age of the Internet, what is a "home school community"? For a gifted child who often needs several sets of peers (Roedell, 1984; Silverman, 1989) will the "classroom of their age peers" limit their social and academic growth, rather than expand it? Both empirical research and a philosophical examination of these kinds of issues is far from complete.

Gifted children, especially those who are economically disadvantaged and those who are highly gifted, are particularly at risk as the political and ideological winds of the 1990s shift and converge. This is the only group of exceptional children with no protection under federal statute for a "free and appropriate public education." Yet like all other children, they are required by compulsory attendance laws to go to school, unless they receive "equivalent instruction elsewhere" (operationally, homeschooling). Furthermore, school programs for these children are caught between the budget knife and current philosophical movements in education which emphasize heterogeneity. The end result is that as schools stress such policies as full inclusion for students with disabilities, heterogeneous grouping, and general fiscal economy, gifted students have fewer and fewer opportunities in school to interact with intellectual peers, despite clear research evidence of the academic and social gains in carefully designed homogeneous groupings of gifted students (White, 1984, 1990; Robinson, 1990).

If inclusionary classrooms are committed to serving **all** students, they must choose to include, both physically and philosophically, even the most extremely gifted children as well as children with the most severe disabilities. This means more for both groups than simply being in attendance in the regular classroom. It means respecting and teaching one's students to respect the unique developmental paths of each individual, no matter how unusual; providing access to a developmentally appropriate curriculum; and providing related support services. Although much has been written about inclusion methods for children with disabilities, an examination of inclusionary principles for children who are extremely gifted has not been addressed. The remainder of this article will briefly describe the highly gifted population, and provide principles for establishing inclusionary educational environments for them.

Who are highly gifted children?

Highly and profoundly gifted children are often defined as those who score above the third or fourth standard deviation on IQ tests (Webb, Meckstroth, & Tolan, 1982), or who are prodigies in a particular domain. A phenomenological definition

is provided by the Columbus Group:

> ...Giftedness is asynchronous development in which advanced cognitive abilities and heightened intensity combine to create inner experiences and awareness that are qualitatively different from the norm. This asynchrony increases with higher intellectual capacity. The uniqueness of the gifted renders them particularly vulnerable and requires modifications in parenting, teaching, and counseling in order for them to develop optimally. (Columbus Group, 1991)

Although "Oddly, perhaps inexplicably, the most extreme forms of intellectual giftedness have been the least studied" (Feldman, 1979, p. 335), the research data about this group of children are remarkably consistent across time and geographic location.

What do we know about highly gifted children?

There are many more children above 170 IQ (Stanford-Binet Form LM and earlier editions) than the typical bell curve predicts. Although the estimated statistical occurrence of children in this range is one or two in a million, the actual incidence is much higher among English-speaking children, no matter when or where the studies were conducted (Dunlap, 1967; Gallagher & Moss, 1963; Gross, 1993; Jenkins, 1943; Jensen, 1980; Laycock, 1979; MacLeish, 1984; McGuffog, Feiring, & Lewis, 1987; Robinson, 1981; Stott & Ball, 1965; Terman, 1925).

Although the current revisions of the Stanford-Binet and the Wechsler Intelligence Scale for Children do not have as high a ceiling as older versions of the Stanford-Binet, a similar population emerges at about 140 IQ on the newer tests (Silverman & Kearney, 1992; J. Osborn, licensed psychologist, personal communication, August 6, 1995).

School placement is an extremely difficult issue for families and schools alike. Schools are not organized in ways conducive to how these children learn, and school policies often unfairly restrict these children from participation in appropriate educational opportunities (Gross, 1993; Hollingworth, 1926, 1942; Stanley, 1978; Tolan, 1985, 1992; U. S. Department of Education, 1993).

Primarily because of developmental asynchrony, social adjustment is often difficult, especially in the childhood and early adolescent years (Hollingworth, 1942; Morelock, 1992). Emotional intensity and religious, moral, and existential concerns are hallmarks, and remain so throughout the lifespan (Hollingworth, 1942; Roeper, 1991; Silverman, 1989). Burks, Jensen, and Terman (1930) noted that "The child of 180 IQ has one of the most difficult problems of social adjustment that any human being is ever called upon to meet" (p. 265).

Societal attitudes towards these children can be exploitative, negative, or punitive (Feldman, 1982; Grost, 1970; Hollingworth, 1942; Robinson, 1990; Tolan, 1985, 1992; Terman, 1925; U. S. Department of Education, 1993; Wallace, 1986; Wiener, 1953; Witty, 1936). These attitudes are evident both in schools (U. S. Department of Education, 1993) and in the media.

General Principles for Full Inclusion

Current inclusion programs for students with disabilities vary widely, and proponents admit that "There are no ready answers and no recipe books for teachers, administrators, or family members grappling with the inclusion of students with disabilities in regular classrooms" (Wolak, et. al., 1992). Attempts have been made

to develop guiding principles for inclusion models, which include such factors as

> Age-appropriate placement in local public schools…Integrated delivery of …services…in the general classroom…Social integration…Curricular expectations…adapted to a level that best challenges the handicapped student…Home-school partnership…Staff development…Team collaboration…[and] Systematic evaluation of educational and related services. (Conn, 1992, p. 23)

It is important to remember that these principles were developed by advocates of full inclusion for students with disabilities, after a review of the research literature and an examination of current practice. It is also important to remember, as previously noted, that several major advocacy communities for children with disabilities do not support full inclusion. Generalizing these principles to other special populations in the school may not always be appropriate, although some will be beneficial to all children.

Principles of Full Inclusion for Highly Gifted Children

Just as Conn (1992) drew from the research base on children with disabilities to develop principles to govern full inclusion classrooms, principles for inclusion of highly gifted children must be grounded in the research base about highly gifted children and the development of extraordinary talent. That research base suggests the following principles:

Intellectual accessibility. "Just as we have worked over the past decade to make public buildings physically accessible to the disabled, we must work to make our age-graded classrooms intellectually accessible to the highly gifted" (Kearney, 1993, p. 16). More than 50 years ago, Hollingworth noted that "In the ordinary elementary school situation, children of 140 IQ waste half of their time. Those above 170 IQ waste practically all of their time" (Hollingworth, 1942, p. 299). Recent research confirms that this is still the case today (Silverman, 1991; Renzulli & Reis, 1991). The vast majority of highly gifted children are caught in an "age-grade lockstep,"(Stanley, 1978, p. 3) which routinely offers such children academic work five, six, seven, or eight years or more below their intellectual level (Gross, 1993; Stanley, 1978).

Such a situation is untenable. Not only are talents lost and bad work habits reinforced, but compelling students by law to attend school, and then limiting academic challenge for some students while providing it for others, is unfair. To become intellectually accessible to all students, public schools must provide **access** to the full range of curriculum, preschool through college. This need not necessarily mean leaving either the school or the classroom; courses over the Internet are now available at all educational levels, preschool through graduate school. These include homeschooling curricula, interactive college coursework, and specially developed courses for young highly gifted students sponsored by Stanford University and the Johns Hopkins University. Schools need to adopt policies which permit continuous progress for individual students of all ability levels.

Respect for intellectual diversity. One of the most troubling findings of the 1993 investigation of the status of gifted American students (U. S. Department of Education, 1993) was the sheer depth of anti-intellectualism in American schools. Taunts of gifted children, such as "nerd" and "dweeb," are common (p. 13). Perhaps even more disturbing, the report found evidence that gifted African-American students who choose to achieve academically are often accused by their peers of "acting white" (p. 13).

We do not allow epithets based on race, ethnicity, gender, or disability to continue unchecked in today's schools. We must not permit slurs based on **ability** either. Part of establishing an inclusionary school environment is making sure classroom language and social interactions are not hurtful to any child. As Ayres & Meyer state, "Inclusion has no conditions and makes no differential value judgments. Everyone belongs, everyone is welcome, and everyone has a contribution to make" (Ayres & Meyer, p. 31).

End arbitrary age discrimination. One of the most common educational difficulties highly gifted students experience in both school and community programs is an arbitrary age requirement for curriculum access. Some of these requirements are artifacts of the institutionalization of the American high school, with its limitations on when Carnegie units may be earned [in most states, not before official enrollment in grade 9]. Others, such as the age of school entrance or the age when one is eligible to take the high school equivalency exam, are codified by state law.

Still other requirements stem from custom, tradition, or local policy, often based less on research than on philosophical belief. Examples include age requirements for participation in a public library's summer reading program, a school's arbitrary refusal to consider grade advancement for a qualified child because "We don't believe in acceleration" (as if acceleration was a religion instead of an educational strategy), or even a toy company's Young Builder's Club, which refused a highly talented 5-year-old boy participation in its organization for older children. The child sent in another club application, "adjusting" his age, so that he could receive Lego sets commensurate with his spatial ability (J. Brunk, personal communication, February, 1992). (The child later went on to win national honors in the company's annual construction contest.)

The concepts of diversity and inclusion in our schools must also extend to age. In order to open up the entire curriculum to students at all levels, it is imperative that we discard rigidly held concepts of age-grading. The current movement toward multi-age classrooms is a beginning, but it is not enough. Changes need to be made in both laws and attitudes. High school students who have a 10-year-old highly gifted classmate can be expected or taught to "do the right thing" (Blackman, 1992, p. 21) and to be just as understanding as we expect them to be with a classmate who has severe disabilities.

Use classroom management and teaching strategies which do not exploit highly gifted children. Busy American teachers since colonial days have used bright children to run errands, tutor other classmates or younger children, and perform maintenance tasks in the classroom. The 1993 federal report on the status of the education of gifted students notes that "Most academically talented students have already mastered up to one-half of the required curriculum offered to them in elementary school" (U. S. Department of Education, 1993, p. 19), not an appreciable improvement from the 1930s (Hollingworth, 1942). Despite rhetoric to the contrary, "Most regular classroom teachers make few, if any, provisions for talented students" (U. S. Department of Education, 1993, p. 2) Furthermore, the trend toward using heterogeneous cooperative learning groups in contemporary classrooms may lend itself to the exploitation of highly gifted children, especially in settings where group grades are given or where no homogeneous groupings are allowed (Robinson, 1990).

The principles behind cooperative learning are based in part on Vygotsky's theory of the "zone of proximal development," which is

> ...the distance between the actual developmental level as determined by independent problem solving and the level of potential development as

> determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygotsky, 1978, p. 86, 89; cited in Bruner, 1985, p. 24, emphasis added)

Thus, when children are able to work with "more capable peers," they reap the benefits of this mediation by increasing their skills. However, for an extremely gifted child, the opportunity to work with a "more capable peer" in the academic areas often is not available in the heterogeneous mix of the regular classroom. If age grouping is strictly adhered to and grade or subject-matter acceleration is not permitted, the child may never have that opportunity.

There are other academic implications as well. Vygotsky continues by stating that "the notion of a zone of proximal development enables us to propound a new formula, namely that the only 'good learning' is that which is in advance of development" (Vygotsky, 1978, p. 86, 89; cited in Bruner, 1985, p. 24, emphasis added). This is a key concept. Given that gifted students in the United States typically know up to half of the curriculum content for a given grade before the school year even begins (U. S. Department of Education, 1993), and that children in the highest ranges of intellectual ability often have mastered even more, their opportunities for "good learning" in the academic areas are significantly less than those of their classmates unless individual adaptations are made to the curriculum.

Teachers and policy makers must be very careful not to exploit highly gifted children. It is tempting to use a quiet, brilliant child who has already mastered most of the academic work of the classroom as a tutor or teacher's assistant, especially when there are 30 children in the class, school policies discourage acceleration or ability grouping, enrichment materials are not available, and the gifted education program has been cut. In general, a reasonable rule would be that a highly gifted child should be expected to spend no more of his or her time than would be expected of any other child in the classroom on activities such as peer tutoring or being a teacher's helper. Like all other students in the school, highly gifted children need daily opportunities to learn new things, even though the pace, depth, and even subject matter may be different from their age-peers. Otherwise, "With little to do, how can these children develop power of sustained effort, respect for the task, or habits of steady work?" (Hollingworth, 1942, p. 299)

Adapt peer settings to meet individual social and academic needs. Gifted students, especially the highly gifted, are probably the one group in our schools for whom the inclusionary principle of "Age-appropriate placement in local public schools" (Conn, 1992, p. 28) is not developmentally appropriate. Longitudinal research with this group strongly supports multi-age grouping, especially of intellectual peers (Hollingworth, 1926; 1942; White, 1984, 1990); the social as well as academic benefits of both subject and grade acceleration (Elkind, 1988; Gross, 1993; Stanley, 1978; Terman, 1925); and the need for several sets of peers (Silverman, 1989; Webb, Meckstroth, & Tolan, 1982).

Teachers are often concerned about the play behavior of extremely gifted children, sometimes mistaking solitary play for social immaturity. It is important to understand that highly gifted children are often loners on the playground not because they lack play knowledge or are unsociable creatures, but because their advanced intellectual development causes them to "organize the play into a complicated pattern, with some remote and definite climax as the goal" and to use vocabulary not yet accessible to age peers (Hollingworth, 1942, p. 274). Developmentally, their cognitive abilities may already be where neither their own motor skills nor their agemates' minds can yet go.

In inclusive classrooms, how much should such a child be encouraged or even

compelled to play with age peers? Each case is different, but among children in the very highest ranges of intelligence, Hollingworth (1942) states:

> These young children of extremely high intellectual acumen fail to be interested in "child's play" for the same reasons that in adulthood they will fail to patronize custard-pie movies or chute-the-chutes at amusement parks. It is futile, and probably wholly unsound psychologically, to strive to interest the child above 170 IQ in ring-around-the-rosy or blind-man's-buff. Many well-meaning persons speak of such efforts as "socializing the child," but it is probably not in this way that the very gifted can be socialized. The problem of how the play interests of these children can be realized is one that will depend largely on individual circumstances for solution. Often it can be solved only by the development of solitary play. (p. 275)

An Inclusionary Vision for Highly Gifted Children

This article briefly explored the current "full inclusion" movement for students with disabilities, and provided principles of inclusion for highly gifted children in our schools. Too many extremely gifted children do not feel included; out-of-sync with other children developmentally, and with the cognitive capacity to know they are different (Morelock, 1992) they often find themselves in one-size-fits-all schools. Without legal protection for an appropriate education, and facing an endemic anti-intellectualism in the society (U. S. Department of Education, 1993), they and their parents are left to muddle through and figure it out on their own, increasing their sense of isolation. Too many highly gifted children are not even in school at all, homeschooling instead after unnecessarily devastating and damaging experiences in the regular classroom (ABC News, 1995; Gross, 1993; Tolan, 1985). It does not have to be this way. With flexibility, an understanding of this population based on research rather than myths, and a willingness to extend our concept of inclusion beyond artificial age, grade, and physical boundaries, we can do better. With practice, we may even begin to do well.

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